

OP 2748 #2

IN THE UNITED STATE PATENT AND TRADEMARK OFFICE

Applicant: Jerome H. Lemelson  
Robert D. Pedersen  
Tracy D. Blake

Art Unit: 2748

Serial No.: 09/517,993

Examiner:

Filed: March 3, 2000

Title: System and Method for Enhancing Speech Intelligibility for the Hearing Impaired



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Assistant Commissioner for Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

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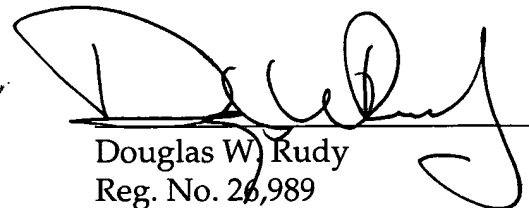
Applicants disclose the following references, which are listed on form PTO-1449 and attached to this document.

If the Examiner has any questions concerning the above matters, please contact applicant's undersigned attorney.

Respectfully submitted,

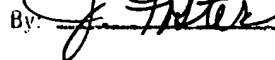
Jerome H. Lemelson  
Robert D. Pedersen  
Tracy D. Blake  
By their attorney

Dated: May 9, 2000

  
Douglas W. Rudy  
Reg. No. 26,989

Certification Under 37 C.F.R. § 1.6

I hereby certify that this paper is being sent this  
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By: 

DOUGLAS W. RUDY  
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(480) 948-3295

**List of Patents and Publications For  
Applicant's Information Disclosure  
Statement**

Serial No.: 09/517,993

Applicants: Jerome H. Lemelson, et al.

Filed: 3/3/00

Group: 2748

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**U.S. PATENT DOCUMENTS**

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<u>Examiner Initials</u>	<u>Document Number</u>	<u>Date</u>	<u>Name</u>	<u>Class</u>	<u>Subclass</u>	<u>Filing Date (if appropriate)</u>
A	4,025,721	05/24/77	Graupe, et al.	179	1 P	
B	4,118,601	10/03/78	Yeap	179	1 D	
C	4,461,025	07/17/84	Franklin	381	56	
D	4,630,304	12/16/86	Borth, et al.	381	94	
E	4,677,677	06/30/87	Eriksson	381	71	
F	4,891,605	01/01/90	Tirkel	330	279	
G	5,550,924	08/27/96	Helf, et al.	381	94	
H	5,581,495	12/03/96	Adkins, et al.	364	724.16	

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**FOREIGN PATENT DOCUMENTS**

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<u>Examiner Initials</u>	<u>Document Number</u>	<u>Date</u>	<u>Country</u>	<u>Class</u>	<u>Subclass</u>	<u>Translation Yes / No</u>
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**OTHER ART**

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<u>Examiner Initials</u>	<u>Author, Title, Date, Pertinent Pages, Etc.</u>
A	Savioja, Lauri/Rinne, Timo J./Takala, Tapio; "Simulation of Room Acoustics with a 3-D Finite Difference Mesh"; Helsinki University of Technology.
B	Vogel, Durk P./Schurer, Hans/Slump, Cornelis H./Herrmann, Otto E.; "On the Realization of 3-D Binaural Audio Synthesis in Real Time"; <a href="mailto:hans@nt.el.utwente.nl">hans@nt.el.utwente.nl</a>
C	Rindel, Jens Holger; "Computer Simulation Techniques for Acoustical Design of Rooms"; <i>Acoustics Australia</i> , September 1995.
D	Schurer, H./Slump, C. H./ Hermann, O.E.; "Digital Compensation of Nonlinear Distortion in Loudspeakers"; <a href="mailto:hans@nt.el.utwente.nl">hans@nt.el.utwente.nl</a>
E	Naylor, Graham/Rindel, Jens Holger; "Predicting Room Acoustical Behaviour with the ODEON Computer Model"; Presented as paper 3aAA3 at the 124 <sup>th</sup> ASA meeting, New Orleans, November 1992.
F	Rindel, J.H.; "Computer Simulation Techniques for Acoustical Design of Rooms - How to Treat Reflections in Sound Field Simulation"; /ASVA 97, Tokyo, April 1997, pgs. 201-208

Examiner: \_\_\_\_\_

Date Considered: \_\_\_\_\_

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Group: 2748

## OTHER ART

## Examiner

InitialsAuthor, Title, Date, Pertinent Pages, Etc.

G Sankar, Ananth/Heck, Larry/Stolcke, Andreas;"Acoustic Modeling for the SRI Hub-4 Partitioned Evaluation Continuous Speech Recognition System; Speech Technology and Research Laboratory SRI International

H Cohen, M./Rumelhart, D./Morgan, N./Franco, H./Abrash, V./Konig, Y.; "Combining Neural Networks and Hidden Markov Models for Continuous Speech Recognition".

I Mohri, M./Riley, M./Hindle, D./Ljolje, A./Pereira, F.; "Full Expansion of Context-Dependent Networks in Large Vocabulary Speech Recognition";AT&T Labs Research; {mohri,riley,dmh,alj,pereira}@research.att.com

J Cohen, M./Franco, H./Morgan, N./Rumelhart, D./Avrash, V./Konig, Y.; "Integrating Neural Networks into Computer Speech Recognition Systems".

K Abrash, Victor; "Mixture Input Transformations for Adaptation of Hybrid Connectionist Speech Recognizers" SRI International; [victor@speech.sri.com](mailto:victor@speech.sri.com)

L Heck, Larry/Sankar, Ananth; "Acoustic Clustering and Adaptation for Robust Speech Recognition"; SRI International; {heck,sankar}@speech.sri.com

M Stolcke, Andreas/Shriberg,Elizabeth; "Statistical Language Modeling for Speech Disfluencies"; SRI International; [stolcke@speech.sri.com](mailto:stolcke@speech.sri.com), [ees@speech.sri.com](mailto:ees@speech.sri.com)

N Cole, Ronald A./Burnett, Daniel/Weatherill, Vince; "An Evaluation Guide for Emergent Technologies in Automatic Speech Recognition"; Center for Spoken Language Understanding, Department of Computer Science and Engineering, Oregon Graduate Institute of Science & Technology, December 6, 1993.

O [www.cscd.nwu.edu/public/ears/assistive](http://www.cscd.nwu.edu/public/ears/assistive); "Assistive Communicative Devices"; 11/16/99

P [www.cscd.nwu.edu/public/ears/perforated](http://www.cscd.nwu.edu/public/ears/perforated); "Perforated Eardrum"; 11/3/99

Q [www.cscd.nwu.edu/public/ears/hearloss](http://www.cscd.nwu.edu/public/ears/hearloss); "Hearing Loss"; 11/4/99

R [www.cscd.nwu.edu/public/ears/cochlear](http://www.cscd.nwu.edu/public/ears/cochlear); "Cochlear Implant: A Device to Help the Deaf Hear"; 11/3/99

S [www.cscd.nwu.edu/public/ears/earache](http://www.cscd.nwu.edu/public/ears/earache); "Earache and Otitis Media"; 11/3/99

T [www.cscd.nwu.edu/public/ears/cholesteatoma](http://www.cscd.nwu.edu/public/ears/cholesteatoma); "Cholesteatoma: A Serious Ear Condition"; 11/3/99

U [www.cscd.nwu.edu/public/ears/otosclerosis](http://www.cscd.nwu.edu/public/ears/otosclerosis); "Otosclerosis"; 11/3/99

V [www.cscd.nwu.edu/public/balance/perilymph](http://www.cscd.nwu.edu/public/balance/perilymph); "Perilymph Fistula"; 11/3/99

W [www.cscd.nwu.edu/public/balance/acoustic](http://www.cscd.nwu.edu/public/balance/acoustic); "Acoustic Neuroma"; 11/3/99

X [www.cscd.nwu.edu/public/ears/noise](http://www.cscd.nwu.edu/public/ears/noise); "Noise, Ears, and Hearing Protection"; 11/3/99

Y [www.cscd.nwu.edu/public/ears/menieres/index](http://www.cscd.nwu.edu/public/ears/menieres/index); Meniere's Disease"; 11/3/99

Z [www.cscd.nwu.edu/public/balance/test](http://www.cscd.nwu.edu/public/balance/test); "Testing for Vestibular Disorders"; 11/3/99

AA [www.utdallas.edu/~thib/rehabinfo/tohl](http://www.utdallas.edu/~thib/rehabinfo/tohl); "Types of Hearing Loss"; 6/29/99

BB [www.eos.ncsu.edu/bae/research/bla...projects/1998/asstdevice\\_98/hearing](http://www.eos.ncsu.edu/bae/research/bla...projects/1998/asstdevice_98/hearing); "Communications Aids"; 11/16/99

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InitialsAuthor, Title, Date, Pertinent Pages, Etc.

CC [www.ama-assn.org/sci-pubs/sci-news/1998](http://www.ama-assn.org/sci-pubs/sci-news/1998); "More Than 7 Million American Children Have Hearing Loss"; Science News Update, Week of April 8, 1998

DD [www.neuro.new.edu/programs/vestib/edu/hearing/cent\\_hearing](http://www.neuro.new.edu/programs/vestib/edu/hearing/cent_hearing); "Central Hearing Loss"; 11/3/99

EE [http://headwize.com/tech/anr\\_tech](http://headwize.com/tech/anr_tech); "Active Noise Reduction Headphone Systems"; HeadWize Technical Papers; 11/22/99

FF [www.askmar.com/askmar/Noise/Noise%20Effects/Noise](http://www.askmar.com/askmar/Noise/Noise%20Effects/Noise); Suter, Alice H.; "Noise and Its Effects"; Administrative Conference of the United States; November 1991; 11/16/99

GG [www.compsoc.man.ac.uk/~maniac/resource\\_web/harmony\\_central/eq](http://www.compsoc.man.ac.uk/~maniac/resource_web/harmony_central/eq); Harmony Central Effects Explained: Equalization; 7/19/99

HH [www.cs.tut.fi/~ypsilon/80545/RoomAcoustics](http://www.cs.tut.fi/~ypsilon/80545/RoomAcoustics); "Room Acoustics"; 9/28/99

II [www.docshop.com/info/hearingloss](http://www.docshop.com/info/hearingloss); Lovering, Larry J.; "Hearing Loss: The Neglected Disorder"; 7/15/99

JJ [www.boystown.org/feafgene.reg/fundamen](http://www.boystown.org/feafgene.reg/fundamen); "Fundamentals of Hearing Part 1"; 7/19/99

KK [www.audiologyawareness.com/hhhelp/audiogram](http://www.audiologyawareness.com/hhhelp/audiogram); "How Do We Read and Audiogram"; The Audiology Awareness Campaign; 7/19/99

LL <http://audiorevolution.com/equip/theatermaster/index>; "Enlightened Audio Designs Theater Master"; 1/5/2000

MM [www.mvblind.uni-linz.ac.at/mvb/research/voice/deliv](http://www.mvblind.uni-linz.ac.at/mvb/research/voice/deliv); "The Voice Project"; 6/28/99

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